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(54) Title: RULE CREATION FOR COMPUTER APPLICATION SCREENING; APPLICATION ERROR TESTING

(57) Abstract: To facilitate the creation of rules for screening appli-
cation layer requests to a computer application, a sample space of ap-
plication layer requests is grouped according to one or more grouping
criteria. Each grouping criterion may be a feature of application layer
requests such that each grouping contains application layer requests
with a common feature. For example, where the application layer re-
quests follow the hyper-text transfer protocol (HTTP), a common
feature for some groupings could be a common URI pathname exten-
sion. A rule set for an application may be used to expose errors in the
application. Test requests are constructed each of which violates at
least one of the rules. The test requests are passed to the application
to see whether the application throws the expected exceptions.

Rule Template for Telephone Numbers

50

52

if data element of field matches any of the following formats
consider it contains a telephone number of that format:

a. North American telephone number format:
area code of:
    optional (
    3 digits
    closing) or – or < tab > or < space >
local no. of
    3 digits
    optional – or < tab > or < space >
    4 digits
54a

b. international telephone number format:
country code of:
    optional (
    2 or 3 digits
    closing) or – or < tab > or < space >
city code of:
    optional (
    1 to 3 digits
    closing) or – or < tab > or < space >
local number of:
    4 to 8 digits, optionally with one or more
    interspersed – or < tab > or < space >
54b

c. toll free telephone number format
1
    optional (or < tab > or < space >
    800 or 855 or 866 or 877 or 888
    closing) or – or < tab > or < space >
    3 digits
    optional – or < tab > or < space >
    4 digits
54c